

LIST OF CURRENT CLAIMS

1. (Currently Amended) Device for simultaneously cooling and removing liquid from compressed gas of at least one a compressor element, comprising ~~(1) or of several compressor elements (1) which are connected either or not in parallel or in series, which device comprises~~ a pressure vessel (2) ~~which is provided with a liquid drain (8) at the a bottom thereof,~~ an inlet (6) for compressed gas at a distance above the latter and an outlet (18) for compressed gas at the a top thereof, ~~characterised in that wherein~~ a distribution device (4) is provided in the pressure vessel (2), between the inlet (6) and the outlet (18) for the compressed gas, said distribution device arranged so as to spread ~~for spreading~~ a cool fluid in direct contact with the compressed gas, and including ~~in that~~ a heat exchanger (5) ~~is provided in the pressure vessel arranged to heat (2) for heating the~~ compressed gas which has been cooled by the cool fluid.
2. (Currently Amended) Device according to claim 1, wherein ~~characterized in that the~~ cool fluid is spread in counterflow relationship with respect to the flow of ~~in the~~ compressed gas.
3. (Currently Amended) Device according to claim 1, wherein ~~or 2, characterised in that~~ a contactor (3) is provided between the inlet (6) and the distribution device (4).
4. (Currently Amended) Device according to claim 3, wherein ~~characterized in that the~~ contactor (3) ~~mainly consists of~~ comprises a pile of loose particles, ~~either or not porous particles which are either or not piled according to a regular pattern.~~
5. (Currently Amended) Device according to claim 3, wherein ~~characterised in that the~~ contactor (3) ~~mainly consists of~~ comprises a mass with an open structure, ~~either or not porous.~~
6. (Currently Amended) Device according to claim 3, wherein ~~characterised in that the~~ contactor comprises ~~(3) mainly consists of~~ dishes.

7. (Currently Amended) Device according to claim 1, wherein ~~one or several of the claims 4 to 6, characterised in that~~ the contactor (3) ~~consists of~~ comprises a combination of different types of contactors.
8. (Currently Amended) Device according to claim 1, wherein ~~characterised in that~~ the heat exchanger arranged to heat (5) ~~for heating~~ the gas is located ~~erected at a~~ the top area of ~~in the~~ pressure vessel (2).
9. (Currently Amended) Device according to claim 1, wherein ~~any of the preceding claims, characterised in that~~ the distribution device (4) for cool fluid comprises a pipe (12) opening onto the contactor (3) in the pressure vessel (2) and extending over a cooler (14).
10. (Currently Amended) Device according to claim 9, wherein ~~characterised in that~~ the cooler (14) is a heat exchanger whose primary part is part of a cooling circuit (15) and whose secondary part is a part (12A) of the pipe (12).
11. (Currently Amended) Device according to claim 9, wherein ~~or 10, characterised in that~~ the pipe (12) of the distribution device (4) connects to a return line (9) of the a ~~a~~ water drain (8) of the pressure vessel (2) to an injection system of the compressor element (1).
12. (Currently Amended) Device according to claim 11, including ~~characterized in that~~ a cooler located (10) ~~is erected~~ in the return line (9).
13. (Currently Amended) Device according to claim 9, wherein ~~any of claims 9 to 12, characterised in that~~ a part (12B) of the pipe (12) of the distribution device (4) is part of the heat exchanger (5) ~~for~~ to enable re-heating the gas.
14. (Currently Amended) Device according to claim 3, including ~~any of claims 3 to 13, characterised in that it comprises~~ a demisting device (19) in the pressure vessel (2) above the contactor (3).

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15. (Currently Amended) Device according to claim 3, wherein ~~characterised in that~~
the heat exchanger (5) and the contactor (3) are thermally insulated and in that the
insulation (2A) is preferably provided on the outside of the pressure vessel (2).